

Remarks

Claims 1-23 are pending. Claim 16 has been canceled. Claims 15 and 19 have been amended, and claims 22 and 23 have been newly added. Support for the amendment to claim 15 can be found in original claim 19, and in the specification on page 6, lines 29-31 and on page 7, lines 13-19. Support for newly added claim 22 can be found on page 4, line 10, for example. Support for newly added claim 23 can be found in original claims 6 and 15. No new matter is believed to be added by these amendments. Consideration and allowance of the pending claims is respectfully requested.

Claim Rejections: 35 USC § 102

Claims 15, 17, and 18 have been rejected under 35 U.S.C. 102(b) for allegedly being anticipated by U.S. Patent 4,698,222 (Grinda et al.)

Applicants respectfully traverse. However, in an effort to expedite prosecution, claim 15 has been amended to recite that the extractant includes a surfactant. Grinda et al. does not teach or suggest the use of a surfactant with the extractant prior to contacting the mixture with plant material. Therefore, applicants respectfully request withdrawal of this rejection.

Claim Rejections: 35 USC § 103

Claims 15-21 have been rejected under 35 U.S.C. 103(a) for allegedly being unpatentable over U.S. Patent 4,698,222 (Grinda et al.) in view of WO 01/15544.

Applicants respectfully disagree.

Spray oil formulations are those that contain an active principle and that are for the purpose of spraying onto plants to deliver the active principle to the plant. The active principle can often be obtained by extraction from another plant itself. Spray oil formulations necessarily also include a surfactant and an oil in order to form an emulsion to facilitate delivery of an active principle to a plant. Significant volumes of surfactant are often needed. Clearly, when a surfactant is added to a solution of active principle, the concentration of the active principle is reduced due to dilution. This is a problem as it reduces the efficacy of the active principle and the formulation so formed.

The inventors have sought to remedy this problem. The inventors have found that an extractant that includes a fatty acid and a surfactant remedies this problem. Specifically, the claims are drawn to a spray oil formulation produced by a method including the following steps: a) providing an extractant including a non-sulfonated triacyl glycerol and/or fatty acid ester and a surfactant; b) contacting the extractant with a plant material to form an extract including compounds from the plant material. That is, the extractant of the present invention includes a surfactant. The surfactant is used to modify the selectivity of the extractant for a particular extractable in the plant (paragraph [0052]). That is, the surfactant serves to increase the efficacy of the extractant. In doing so, (i) the amount of extractable extracted is enhanced and (ii) the amount of extractable in the final spray oil formulation is enhanced since (a) there is more extractable extracted, (b) the amount of non-surfactant extractant used may be reduced to provide the same amount of extractable and/or (c) there is no need to dilute the extractant by adding further surfactant to form the emulsion (the surfactant being already present in the formulation).

Grinda et al., on the other hand, discusses forming a spray formulation by a method which comprises contacting powdered dry parts of the plant with an alkyl or alkenyl ester of a fatty acid, and thereafter recovering the ester having the natural insecticide substance dissolved therein. Grinda et al. then emulsifies and dilutes the extraction in the presence of a surfactant. This is substantially different from the formulation disclosed herein. The present claims are drawn to providing an extractant and a surfactant, *and then* contacting the plant material to be extracted with the extractant and surfactant. WO 01/15544 does not remedy this, as it also teaches that the surfactant is added *after* the extractant has been contacted with the plant material, not before. Adding the surfactant directly to the extractant would have been beneficial because it would have kept the plant material from being further diluted upon the subsequent addition of a surfactant, as disclosed in Grinda et al. and as discussed above.

It was not previously known in the art what effect a surfactant would have on the extractant: there was no suggestion in Grinda et al. or WO 01/15534 as neither document teaches use of the surfactant in the extractant prior to extraction. It was an unexpected and surprising result that the surfactant could have been added to the extractant prior to contacting the plant material, and that the plant material could still be properly extracted. This was not known in the art at the time of the invention, and one of skill in the art would not have known that the extractant would be effective at extracting the plant material when the surfactant was added first. Furthermore, adding the surfactant to the extractant prior to contacting the mixture with a plant extract also has the unexpected result of modifying the selectivity of the extractant for extraction of compounds in the plant material (as discussed above). One of skill in the art could not have

ATTORNEY DOCKET NO. 06142.0005U1
Application No. 10/576,384

supposed this to be the case, and it was indeed surprising and unexpected. Applicants therefore respectfully request withdrawal of this rejection.

Favorable consideration of claims 1-23 is earnestly solicited.

A credit card payment submitted via EFS Web in the amount of \$60.00, representing the fee for a small entity under 37 C.F.R. § 1.17(a)(1), and a Request for Extension of Time are enclosed. This amount is believed to be correct; however, the Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 14-0629.

Respectfully submitted,

NEEDLE & ROSENBERG, P.C.

/Janell T. Cleveland/

Janell T. Cleveland
Registration No. 53,848

NEEDLE & ROSENBERG, P.C.
Customer Number 23859
(678) 420-9300
(678) 420-9301 (fax)

CERTIFICATE OF EFS-WEB TRANSMISSION UNDER 37 C.F.R. § 1.8

I hereby certify that this correspondence, including any items indicated as attached or included, is being transmitted by EFS-WEB on the date indicated below.

/Janell T. Cleveland/

December 13, 2007

Janell T. Cleveland

Date